DOCUMENT RESUME

ED 140 154 CG 011 432

AUTHOR Hutcherson, Richard R.
TITLE Differentiating MR and LD Groups by WISC-R Profile Analysis.
PUB DATE [71]
NOTE 12p.; Not available in hard copy due to marginal legibility of original document.

EDRS PRICE MF-$0.83 Plus Postage. HC Not Available from EDRS.
DESCRIPTORS Children; Evaluation; Exceptional Children; Intelligence Quotient; *Intelligence Tests; *Learning Disabilities; Mental Retardation; *Profile Evaluation; Research; *Retarded Children; *Test Interpretation; *Test Reviews
IDENTIFIERS *Wechsler Intelligence Scale for Children Revised

ABSTRACT

Methods of profile analysis using WISC verbal-performance and subtest discrepancy scores have been used extensively with diagnosis and programming remediation for learning disabled children. The procedure though is generally not applied to children diagnosed as mentally retarded primarily due to the accepted belief that the mentally retarded have ability profiles which are relatively flat. The results of this study of 103 6 through 12 year old children who were administered the WISC-R suggest that the discrepancy between scores on the verbal-performance sections and between subtests is generally no greater for the learning disabled group (above IQ of 80) than for the mentally retarded group (below IQ of 80). Therefore, the application of remediation techniques based on the strengths and weaknesses found by use of profile analysis methods using WISC-R scores should not be discriminately applied to children scoring above a certain IQ criteria and not to their counterparts who score below the criteria for labeling as learning disabled. (Author)

****
* Documents acquired by ERIC include many informal unpublished *
* materials not available from other sources. ERIC makes every effort *
* to obtain the best copy available. Nevertheless, items of marginal *
* reproducibility are often encountered and this affects the quality *
* of the microfiche and hardcopy reproductions ERIC makes available *
* via the ERIC Document Reproduction Service (EDRS). EDRS is not *
* responsible for the quality of the original document. Reproductions *
* supplied by EDRS are the best that can be made from the original. *
****

ED140154

Differentiating MR and LD Groups by WISC-R Profile Analysis

Richard R. Hatcherson

Joplin Regional Center for the Developmentally Disabled

Joplin, Missouri

HARD COPY NOT AVAILABLE

BEST COPY AVAILABLE

U S DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

CG011432

Running head: WISC-R Profile Analysis

Differentiating MR and LD Groups

by WISC-R Pofile Analysis

Profile analysis of subtest scores has been freely used to determine learning modes and intra-ability preferences or weaknesses of the LD population. Furthermore, it is evident that this analytic method applied to test batteries is possibly one of the most widely used methods of individual learning disability diagnosis today. Authorities in large number have described the use of comparitive analytic methods using the WISC and other similarly constructed batteries (WAIS, WPPSI, ITPA, Detroit Test of Learning Aptitude, etc.) in differentiating the learning disabled child and mentally retarded child. Most agree that the learning disability (LD) syndrome is marked by peaks and valleys in a subtest profile whereas the subtest profile of the mentally retarded (MR) child is quite flat with little subtest variation from the mean of the total of subtest scores.

Cruickshank went as far as to say the "basic learning characteristics of the MR are in all probability the same as for normal children of approximately the same mental age" (p. 506). In his differentiation of the MR from the LD, he said, "recent studies indicate quite conclusively that the MR learn in the same way as the normal (but differently than the learning disabled)" (p. 521).

If we accept the supposition that the MR do actually display relatively insignificant inter-test deviations on the WISC, thus indicating comparatively equivalent specific ability functioning, and the inverse for the LD, then we should be able to observe significant

differences between the scoring on subtest as well as on verbal and performance sections of the WISC between the MR and LD populations. If this relationship would be realized then it follows that there is justification in applying strategically different instructional techniques between the two groups.

Aside from the theory of the matter, upon listening to many teachers of special programs, one frequently hears the teacher of an educable MR class discuss a child whose stated IQ is 85 and who is achieving poorly. She says that if he is placed in her class she won't know how to teach him because he is not MR, but LD. The reverse is also heard from LD teachers when they receive a child whose IQ is below a certain point. If these beliefs have foundation, and differential diagnosis utilizing the WISC notes LD children to have differing subtest profiles from MR children, then the present system of diagnosis and remediation for LD and MR children is quite logical. Conversely, if the teachers' remarks are an outgrowth of their reading and formal educational training, and significant subtest variability is not observed between the two groups mentioned, possibly further consideration of changes in the diagnostic and instructional differentiation between the MR and LD groups would be warranted.

The writer noted that often children within this IQ range were difficult to differentiate by analyzing the score scatter between subtests and between the verbal and performance sections on the Wechsler scales, i.e., if a child's subtest and/or verbal-performance profile(s) were viewed with only the subtest and/or section labels included (minus basal, ceiling, and scale score references). Thus; the perpose of this

investigation was to observe the significance of subtest and verbal-performance scale score range differences on the Wechsler Intelligence Scale for Children-Revised (WISC-R) for groups of children labeled as being MR (IQ's of 61 through 80) with children labeled as being LD (IQ's of 81 through 100).

The basis for formulation of educational programs for children across the span of IQ range is, of course, only partially determined by such ideological foundations as profile analysis of test results. Overtime, variables such as classroom organization, available materials, outside administrative control of the classroom instruction, etc. do more to effect instructional policies than plans originally founded upon subtest variability. Thus, the original provisions for individuality in learning style inferred from test results are inadvertently lost.

Substituted for instructional programming emphasizing differences are often arrangements which allow for grouping of children for administartive ease which treats, for instance, five children with IQ's of 70 as all having the same educational needs.

METHOD

Subjects

The 103 children of the study were all from the southwestern area of Missouri, were all experiencing learning problems in school such that full time regular class placement was not possible even with consultive assistance provided the teacher, and had been referred to the center for evaluation. All those included had diagnosed as their major disability either mental retardation or specific learning disability. This is not to imply that additional secondary conditions such as behavioral difficulties, motoric impairment, etc. weren't included.

Chronological ages were from 6 years through 12 years 11 months. The number of children involved in the groups ranged from a low of 8 in the 9 year old group to a high of 22 in the 10 year old group. The mean number per age group was approximately 15 children. Approximately 86% of the population were males.

Procedure

All the children were administered the Wechsler Intelligence Scale for Children-Revised within an 18 month period. The tests were all administered at the center by department psychologists.

Only children with Full Scale IQ's of 61 through 100 were included. They then were grouped by IQ ranges of 5 points thus making 8 groups with the highest point group being between the points of 96 through 100 and the lowest being 61 through 65 Full Scale IQ points. The number of children in each IQ range went from a low of 10 in the 66 through 70 and 61 through 65 points groups to a high of 18 in the 76 through 80 point group. The mean number of children per IQ group was approximately 13. All but 8 of the 56 chronological age/IQ compartments had at least 1 subject contained within them.

The subtest scale score ranges and verbal-performance section IQ score ranges were then computed for all tests within each IQ interval. After compiling this information within each IQ interval, the intervals were compared to each other to determine the significance of the heterogeneity of their variances and means by using first Fisher's F-ratio and then the t-test of significance. If the range heterogeneity was not significant as indicated by the F-test, the t-test was not applied. Conversely, if the F-test indicated that possibly the range variance was significant, the t-test was applied to determine if the range

differences between the subtest scale scores and/or the verbal-performance section IQ scores of the MR and LD groups were significant. Significance was defined as .05 or less.

RESULTS

In Table 1 the summary of F- and t-test results for the pairings of IQ intervals of both verbal-performance and subtest ranges is provided. Observe that in the verbal-performance pairings is the consistent significance of the 71 through 75 IQ interval when compared with all other IQ intervals except those between IQ's of 61 through 70. No other consistent trend of significance is seen in that group of pairings.

The pairings of the subtest ranges resulted in only scattered findings of significance between pairings. No consistent trend could be established in this group of pairs whatsoever.

The findings in both cases of verbal-performance range and subtest range comparisions indicate no siginificant differences between the expected variability between verbal-performance or subtest profiles of the MR and LD groups.

Insert Table 1 about here

DISCUSSION

The results of pairings of verbal-performance section ranges or subtest score ranges are basically unremarkable. In a general sense, they are supportive of the hypothesis that the discrepancy between score ranges of the verabal-performance sections or between subtest score ranges of the WISC-R are not significantly different from most IQ interval pairings regardless of where the intervals are in the IQ

range between 61 through 100.

This finding runs counter to commonly accepted beliefs that the MR generally display relatively flat profiles with peaks and valleys being common only to the ability profiles of LD children who generally must have IQ's of approximately 80 and above to be labeled as such.

Inspecting the table section referring to the verbal-performance ranges, it is seen that the 71 through 75 IQ interval as paired with all other intervals of 76 and above was found to be significantly different (.05 or less) in both the range variance and mean.

The F values in the boxes of this column range from a high of 14.66 to a low of 6.82, and t values as high as -3.69 to low values of -2.64. The t was based on a two-tailed test. It is somewhat odd though that the 61 through 65 and 66 through 70 intervals when paired with the 71 through 75 interval weren't found to be significant. Because of the small ample, this group of significant pairings may have been artifactual. However, another researcher may find that what is seen here may not be artifactual, but rather a test-related variable. Regardless, the user of a verbal-performance discrepancy as a determiner of the possibility of the presence of a learning disability may be unfairly discriminate in the application of whatever meaning it may have for him if that meaning is not equally applied to the child who has a full scale IQ of below approximately 80 and/or who may be labeled MR. Furthermore, if that discrepancy does result in related instructional strategies for the child labeled LD and not for the child labeled MR, than an injustice is possibly being committed. The identical logic holds for subtest score discrepancies for the IQ group from 61 through 100. The section of Table 1 describing the results of pairings of IQ interval subtest

ranges suggests that for this population there were no consistent groups of pairings which showed significance such that would justify an examiner recommending two children, one labeled MR and another LD, with similar subtest score scatter, receive different instructional techniques except in level of difficulty.

Therefore, examiners who accept the supposition that the WISC-R subtests are valid indices of children's abilities and can be quantified using profile methods must be cautious not to overinterpret the WISC-R score scatter. Rather, if a child displays peaks and valleys in his testing profile on the WISC-R, the recommendation to adjust instructional techniques and difficulty levels should apply indiscriminate of his full scale IQ being above or below approximately 80.

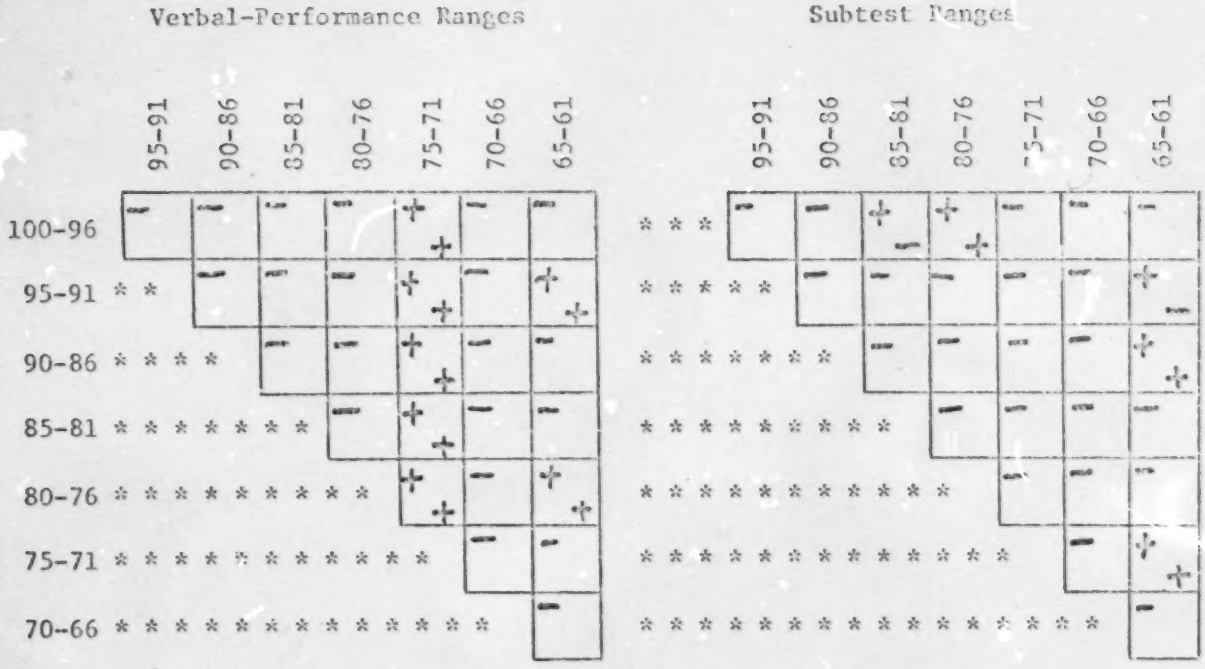
References

Cruickshank, William M. Psychology of Exceptional Children and Youth (third ed.). Prentice-Hall, Inc., Englewood Cliffs, N.J., 1971.

Table 1

Significance Results of Pairing IQ Intervals for

Verbal-Performance and Subtest Score Ranges



Note. Marks in the upper left hand of the boxes indicate whether the F-test was significant; if it was, the t-test was run and the results are in the lower right of the boxes.

[a] + = significant at .05

[b] − = not significant at .05

Abstract

Methods of profile analysis using WISC verbal-performance and subtest discrepancy scores have been used extensively with diagnosis and programming remediation for learning disabled children. The procedure though is generally not applied to children diagnosed as mentally retarded primarily due to the accepted belief that the mentally retarded have ability profiles which are relatively flat. The results of this study of 103 6 through 12 year old children who were administered the WISC-R suggest that the discrepancy between scores on the verbal-performance sections and between subtests is generally no greater for the learning disabled group (above IQ of 80) than for the mentally retarded group (below IQ of 80). Therefore, the application of remediation techniques based on the strengths and weaknesses found by use of profile analysis methods using WISC-R scores should not be discriminately applied to children scoring above a certain IQ criteria and not to their counterparts who score below the criteria for labeling as learning disabled.